





# IHLP<sup>®</sup> Commercial Inductors, High Temperature (155 °C) Series



### FEATURES

- High temperature, up to 155 °C
- 10.8 mm x 10.2 mm x 4.0 mm SMD package
- Magnetically shielded construction
- Metal alloy core
- IHLP design; PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### LINKS TO ADDITIONAL RESOURCES



### APPLICATIONS

- DC/DC power supplies
- Smart grid and solar
- Telecommunications equipment
- Noise suppression and filtering

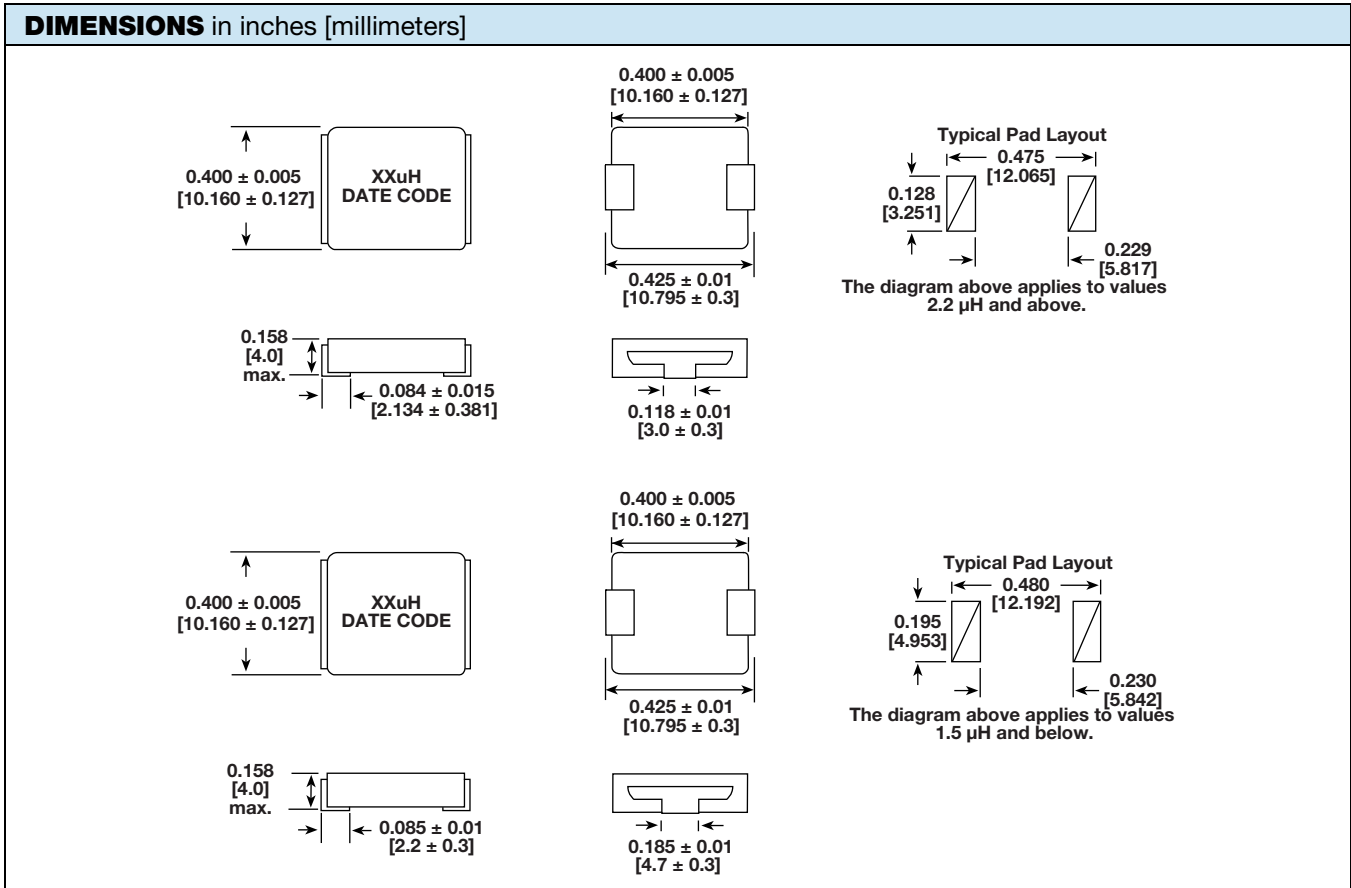
| STANDARD ELECTRICAL SPECIFICATIONS |                                     |                   |       |  |   |           |                      |
|------------------------------------|-------------------------------------|-------------------|-------|--|---|-----------|----------------------|
| PART NUMBER                        | INDUCTANCE<br>± 20 % (µH)<br>AT 0 A | DCR 25 °C<br>(mΩ) |       | HEAT RATING<br>CURRENT<br>DC TYP. (A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP. (A) <sup>(2)</sup> |           | SRF<br>TYP.<br>(MHz) |
|                                    |                                     | TYP.              | MAX.  |  | 20 % DROP   | 30 % DROP |                      |
| IHLP4040DZERR47M51                 | 0.47                                | 1.55              | 1.66  | 35.5   | 28.5  | 38.0      | 72.1                 |
| IHLP4040DZERR68M51                 | 0.68                                | 2.17              | 2.32  | 35.0   | 24.0  | 32.0      | 42.5                 |
| IHLP4040DZER1R0M51                 | 1.0                                 | 2.87              | 3.07  | 23.5   | 24.0  | 32.0      | 37.2                 |
| IHLP4040DZER1R5M51                 | 1.5                                 | 4.20              | 4.50  | 22.0   | 17.9  | 24.2      | 32                   |
| IHLP4040DZER2R2M51                 | 2.2                                 | 8.15              | 8.76  | 15.0   | 12.0  | 16.2      | 30.1                 |
| IHLP4040DZER3R3M51                 | 3.3                                 | 11                | 11.81 | 11.0   | 12.0  | 16.2      | 25.5                 |
| IHLP4040DZER4R7M51                 | 4.7                                 | 14.3              | 15.32 | 9.8  | 9.2   | 12.4      | 20.1                 |
| IHLP4040DZER5R6M51                 | 5.6                                 | 16.5              | 17.60 | 9.3  | 9.0   | 12.2      | 16.3                 |
| IHLP4040DZER6R8M51                 | 6.8                                 | 20.9              | 22.36 | 8.0  | 9.0   | 12.2      | 16.3                 |
| IHLP4040DZER100M51                 | 10                                  | 30.9              | 33.06 | 6.5  | 8.5   | 11.5      | 11.5                 |
| IHLP4040DZER150M51                 | 15                                  | 47                | 50.29 | 5.1  | 7.7   | 10.4      | 10.4                 |
| IHLP4040DZER220M51                 | 22                                  | 70.5              | 75.44 | 4.1  | 6.4   | 8.6       | 8.3                  |
| IHLP4040DZER330M51                 | 33                                  | 110               | 117.7 | 3.7  | 4.2   | 5.7       | 5.79                 |
| IHLP4040DZER470M51                 | 47                                  | 167               | 178   | 3.1  | 4.1   | 5.5       | 5.22                 |
| IHLP4040DZER680M51                 | 68                                  | 240               | 252   | 2.4  | 3.5   | 4.7       | 4.02                 |

### Notes

- All test data is referenced to 25 °C ambient
  - Test condition: 100 kHz, 0.25 V
  - Operating temperature range -55 °C to +155 °C
  - The part temperature (ambient + temp. rise) should not exceed 155 °C under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
  - Rated operating voltage (across inductor) = 75 V
- <sup>(1)</sup> DC current (A) that will cause an approximate ΔT of 40 °C  
<sup>(2)</sup> DC current (A) that will cause L<sub>0</sub> to drop approximately 20 % and 30 %

PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)

This Vishay product is protected by one or more United States and international patents.

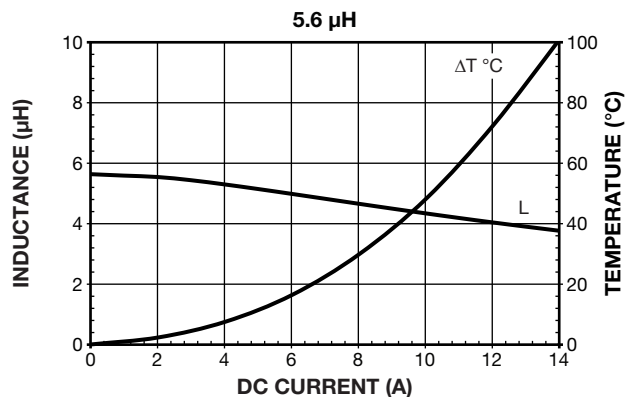
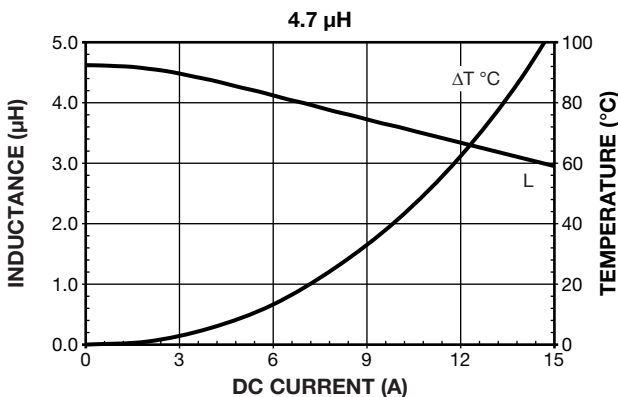
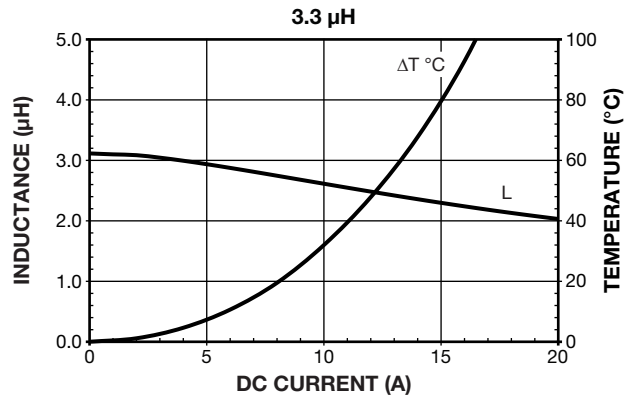
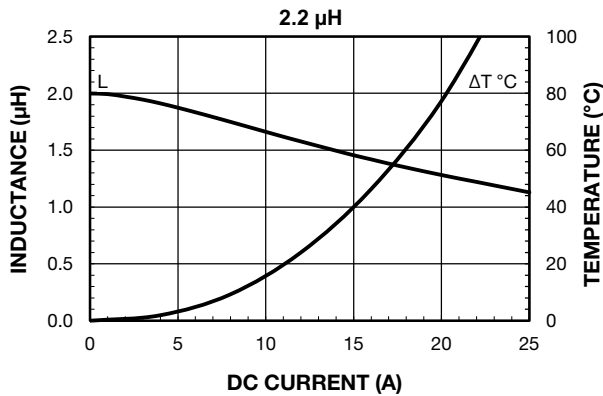
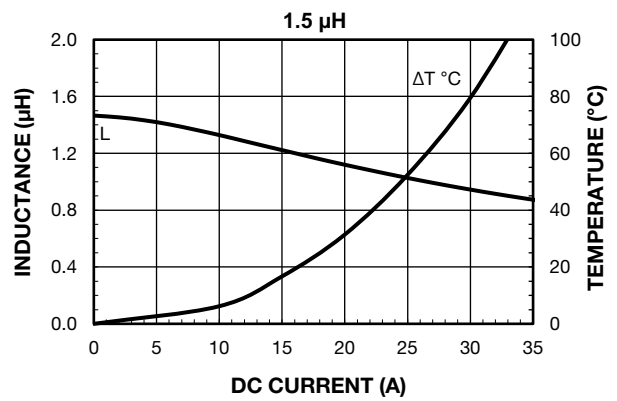
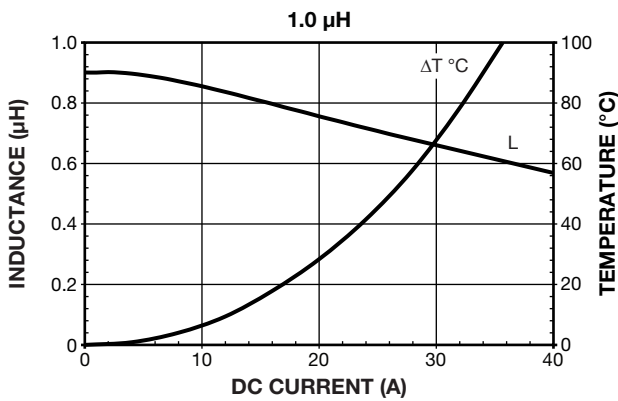
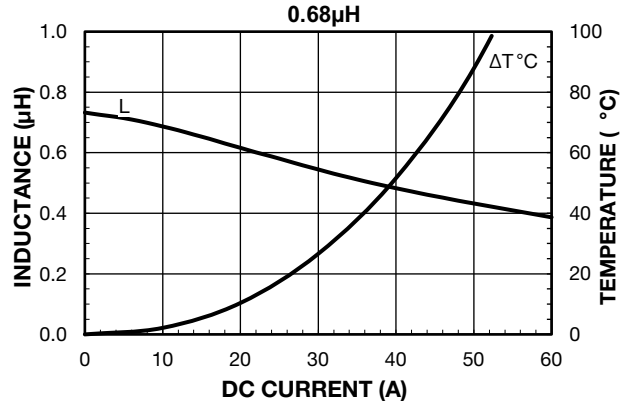
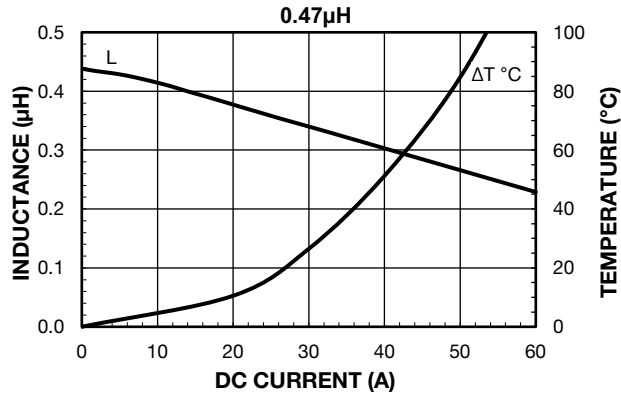


| DESCRIPTION    |                  |                      |               |                                |    |  |  |  |  |
|----------------|------------------|----------------------|---------------|--------------------------------|----|--|--|--|--|
| IHLP-4040DZ-51 | 4.7 µH           | ± 20 %               | TAPE AND REEL |                                | e3 |  |  |  |  |
| MODEL          | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE  | JEDEC® LEAD (Pb)-FREE STANDARD |    |  |  |  |  |

| GLOBAL PART NUMBER |   |   |   |      |   |   |   |   |              |   |                  |   |   |      |        |   |   |
|--------------------|---|---|---|------|---|---|---|---|--------------|---|------------------|---|---|------|--------|---|---|
| I                  | H | L | P | 4    | 0 | 4 | 0 | D | Z            | E | R                | 4 | R | 7    | M      | 5 | 1 |
| PRODUCT FAMILY     |   |   |   | SIZE |   |   |   |   | PACKAGE CODE |   | INDUCTANCE VALUE |   |   | TOL. | SERIES |   |   |

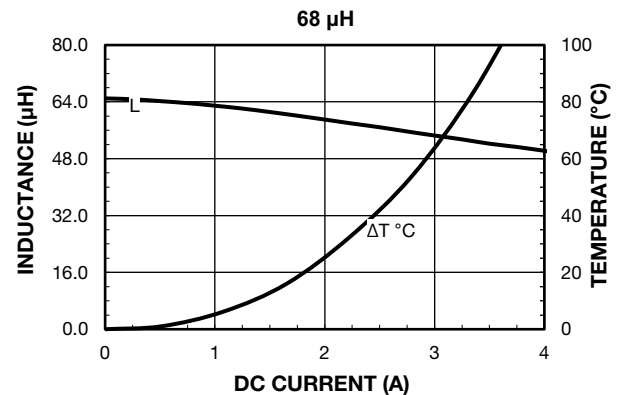
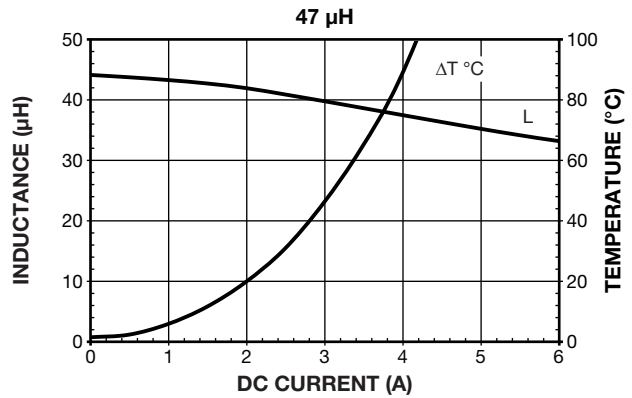
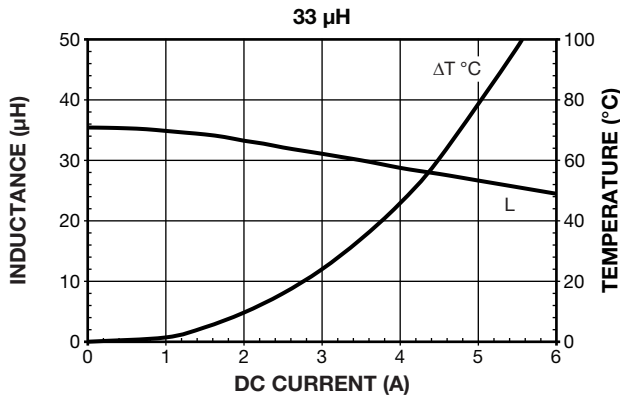
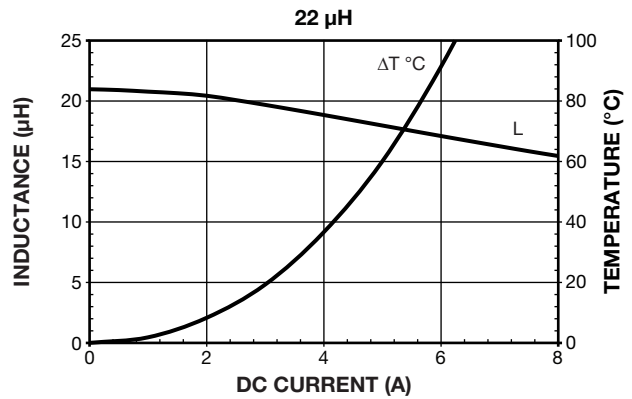
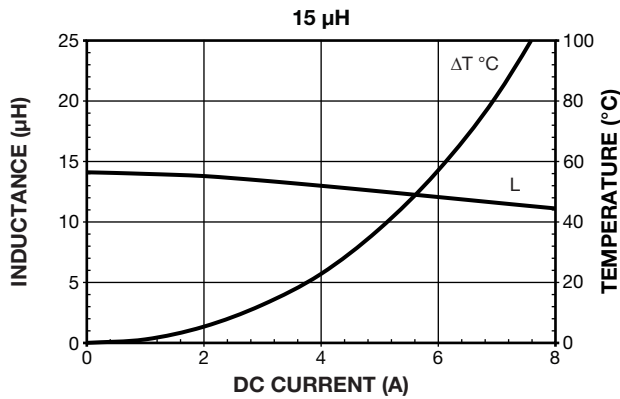
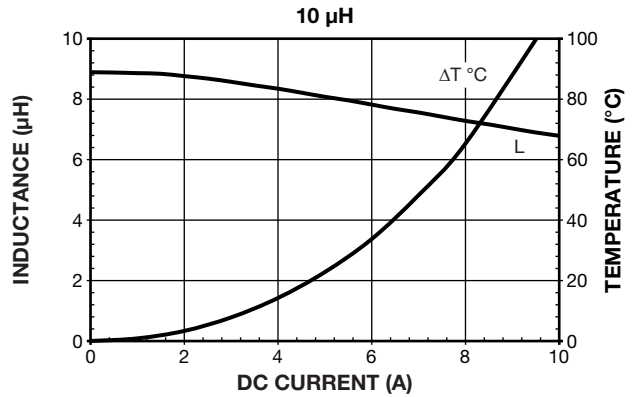
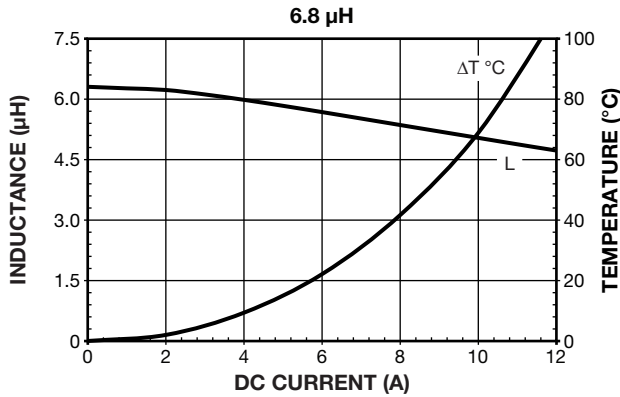


PERFORMANCE GRAPHS

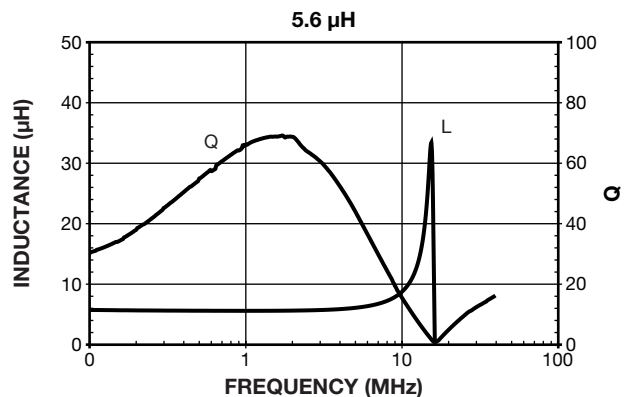
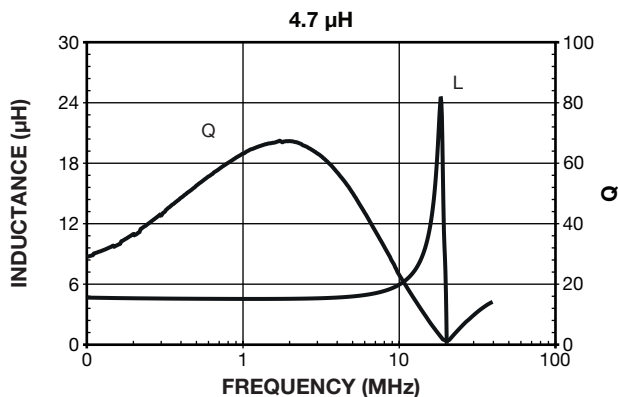
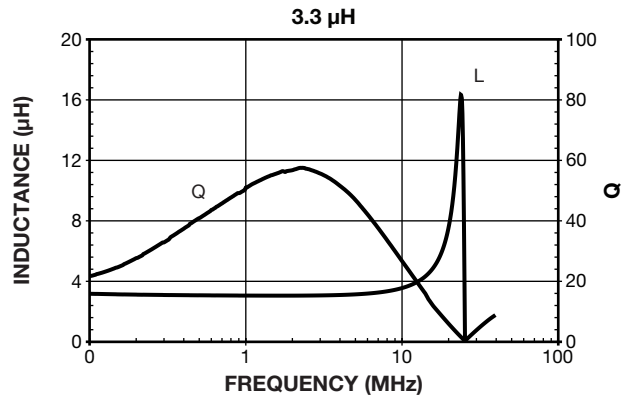
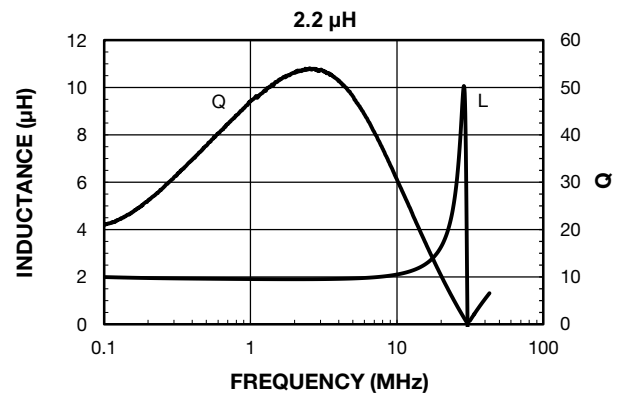
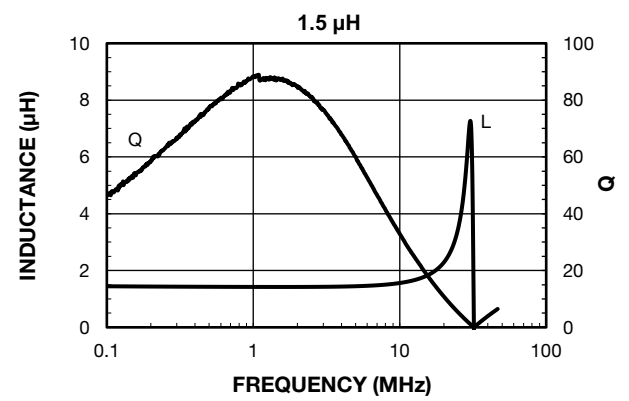
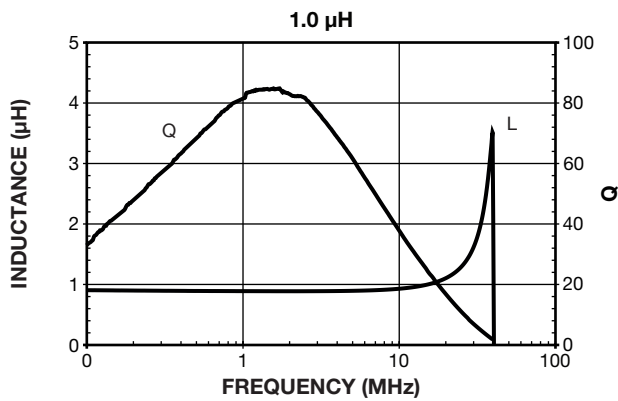
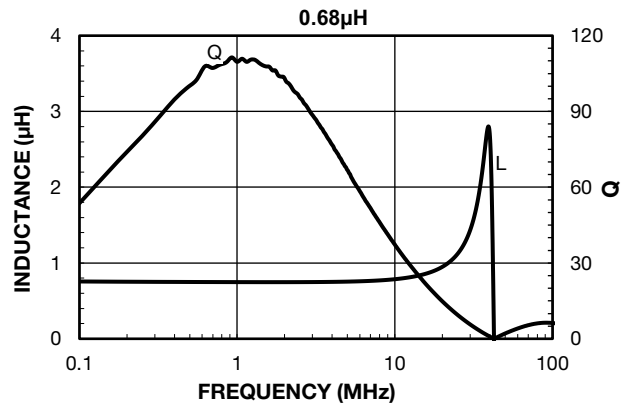
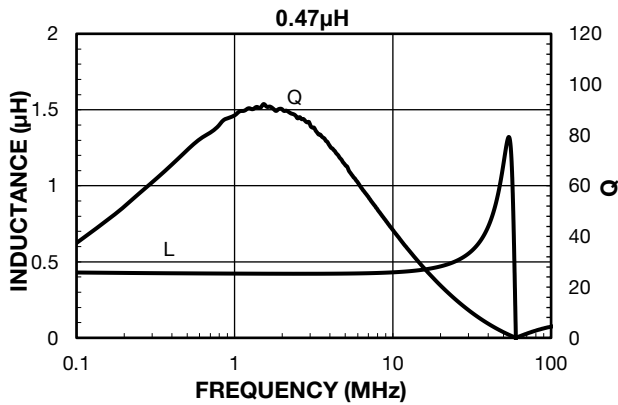




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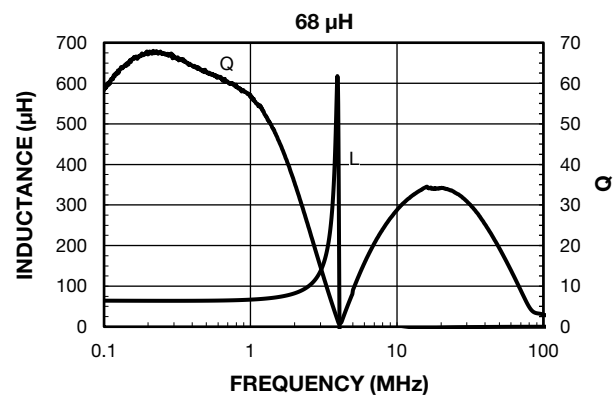
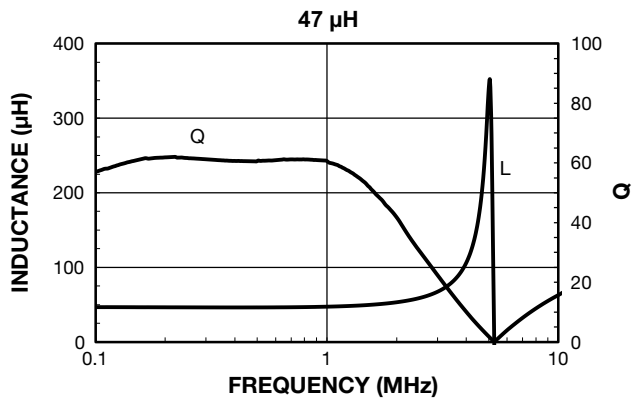
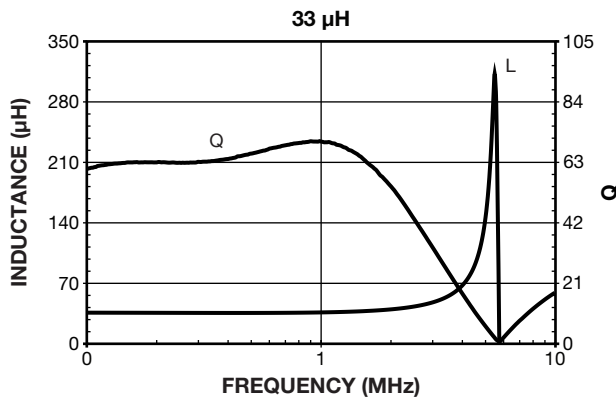
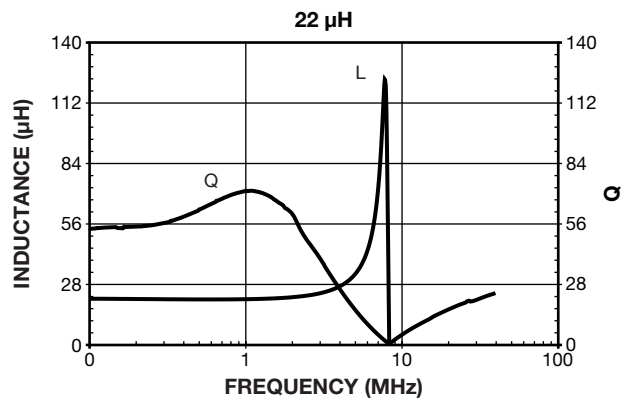
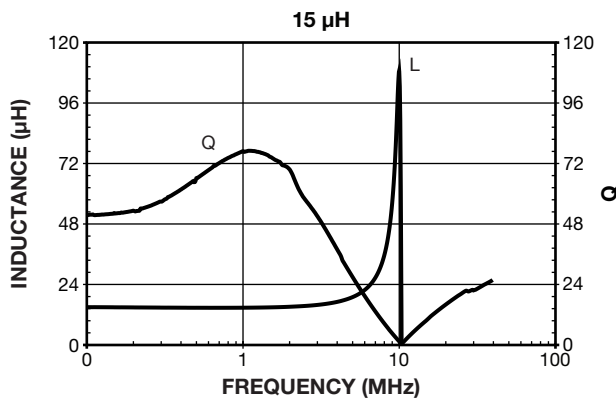
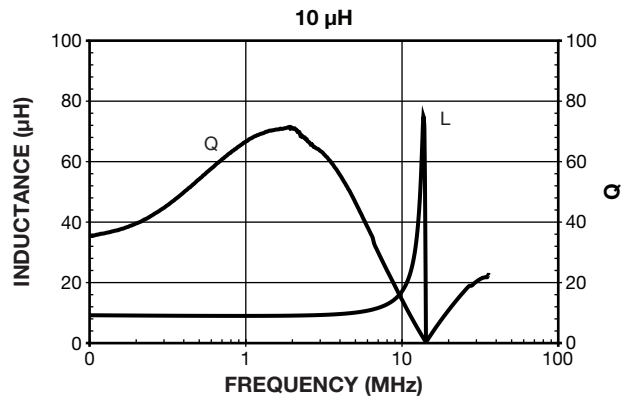
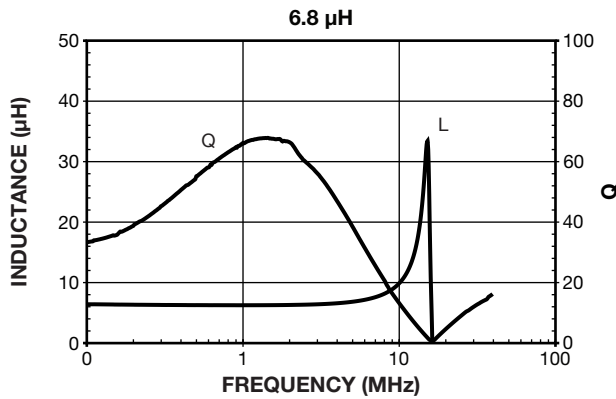


**PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY**





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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